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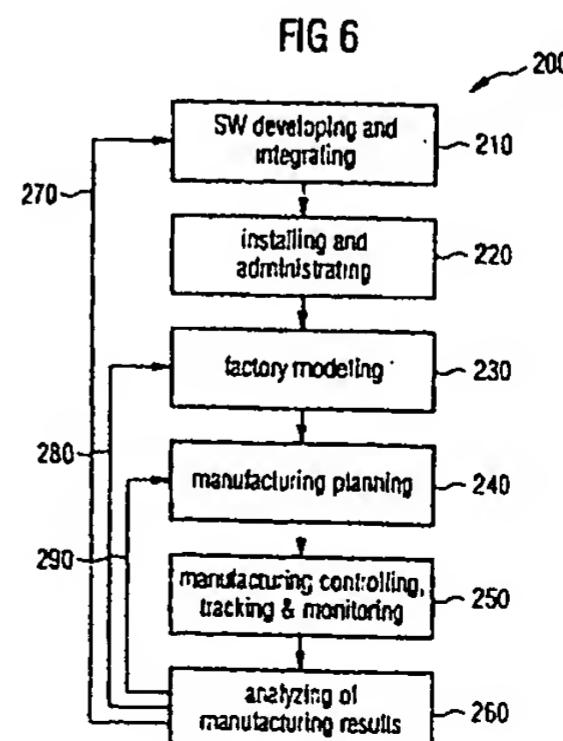
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(54) Computer integrated manufacturing techniques

(57) The present invention provides a novel distributed factory system framework including a novel factory automation lifecycle (200) having lifecycle activities for SW developing and integrating (210), installing and administrating (220), factory modeling (230), manufacturing planning (240), manufacturing controlling, monitoring and tracking (250) and analyzing of manufacturing results (260). The factory lifecycle comprises framework components. The distributed factory system framework also includes application components and SW building blocks. The framework components are adapted for managing the application components, while the application components are utilized to provide instructions for managing a process such as a wafer fab. The building blocks are adapted for forming or modifying framework and application components. The distributed factory system framework provides computer implemented

methods for integrating processing systems and facilitates process and equipment changes.





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EUROPEAN SEARCH REPORT

Application Number
EP 00 11 5577

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)						
X	US 5 495 417 A (MIURA KAZUYKI ET AL) 27 February 1996 (1996-02-27) * column 13, line 41 - column 15, line 35 * * column 39, line 60 - column 47, line 67; figures 1-7,89-96 *	1, 13, 17, 19-24	G05B19/418 G05B17/02						
X	US 5 657 254 A (DUROSS RONALD R ET AL) 12 August 1997 (1997-08-12) * column 4, line 66 - column 7, line 61; figures 1-4 *	15							
The present search report has been drawn up for all claims									
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Place of search</td> <td style="width: 33%;">Date of completion of the search</td> <td style="width: 33%;">Examiner</td> </tr> <tr> <td>MUNICH</td> <td>27 September 2001</td> <td>Helot, H</td> </tr> </table>				Place of search	Date of completion of the search	Examiner	MUNICH	27 September 2001	Helot, H
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MUNICH	27 September 2001	Helot, H							
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">CATEGORY OF CITED DOCUMENTS</td> <td style="width: 50%;">1 : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons 8 : member of the same patent family, corresponding document</td> </tr> <tr> <td>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</td> <td></td> </tr> </table>				CATEGORY OF CITED DOCUMENTS	1 : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons 8 : member of the same patent family, corresponding document	X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			
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EP 00 11 5577

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EOP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

27-09-2001

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 5495417	A	27-02-1996	JP	5266029 A	15-10-1993
			JP	6110894 A	22-04-1994
			JP	5216896 A	27-08-1993
			JP	3140877 B2	05-03-2001
			JP	6252236 A	09-09-1994
			JP	3139867 B2	05-03-2001
			JP	6260380 A	16-09-1994
			JP	6176994 A	24-06-1994
			US	5694325 A	02-12-1997
			JP	5151231 A	18-06-1993
US 5657254	A	12-08-1997	US	5508947 A	16-04-1996
			US	5220517 A	15-06-1993
			CA	2050247 A1	01-03-1992
			CA	2165847 A1	01-03-1992
			CA	2194855 A1	01-03-1992
			US	5329463 A	12-07-1994
			US	5497316 A	05-03-1996

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